

NOTES ON DRINKING HABITS OF BIRDS

By ERIC H. SEDGWICK, Harvey, W.A.

Summary

A number of incidental records of Australian birds drinking are abstracted and briefly outlined.

Introduction

The casual recording of birds drinking is not entirely satisfactory: it appears almost impossible to obtain records in situations where water abounds owing to the difficulty of separating drinking from feeding and other activities and it is, of course, impossible to obtain records in waterless areas under normal conditions. Most of my records relate to drinking at artificial or at temporary supplies in relatively arid areas.

It is curious that, on a few occasions, I have encountered several species exploiting a source of water at one time e.g.

- (a) At Gorrie, N.T., within a few minutes I observed nine species drinking at a small puddle. Most of the time at least three species were present.
- (b) At Caron, W.A., within half an hour I saw six species drinking at a small pool.
- (c) At Nangeenan, W.A., four species of honeyeater were seen drinking simultaneously at a bowl of water.

These occurrences suggest that this behaviour was in some cases imitative.

Recently, May 4, 1971, at Harvey, on a rather cold, windy morning, I saw a Wagtail appear at a bird-bath and drink briefly before plunging into the water and ruffling its feathers—typical bathing behaviour. No sooner had the Wagtail left than a Brown Honeyeater and two Silvereyes appeared at the bath and commenced bathing. Thereafter birds came and went from the adjacent shrubs—another Brown Honeyeater and several Silvereyes. Other water is available here and, perhaps for this reason, the bath is very seldom used. It certainly appeared as though the behaviour of the Wagtails stimulated similar behaviour in the other two species. Three days later I saw a repetition of this incident, differing only in detail. As before, the whole incident occupied little, if any, more than two minutes. In these records of bathing a similar pattern of imitation to that exhibited in the drinking incidents appears to have occurred.

E. A. Armstrong (*Bird Display*, 1942, p. 306) writes: "Many instances of the contagiousness of behaviour have been referred to in the course of the preceding pages and it is sufficiently clear that there is hardly any activity of birds which may not be aroused by the presence of other birds performing." However none of his examples refer to drinking or to bathing and only one is inter-specific.

The dates of notes upon which the following observations are based in many cases refer to the southern summer period. Forty-two notes refer to the December-March period and thirteen notes relate to the other months of the year. This may be significant.

Mrs. Sedgwick has drawn my attention to the extent to which birds use trivial sources of water e.g., a dripping tap, even when ampler supplies are available close at hand. At Caron, both Western Rosella and Mulga Parrot were observed obtaining water from the conical roof of a 5,000 gallon tank. Water condensed on the underside of the roof and this trickled out through the rivetted but unsoldered seams and was taken by the birds. Other seemingly more adequate supplies were close at hand.

A capacity to use trivial sources of water e.g., dew or transpiration water on leaves, could be of great survival value in semi-arid and arid areas and the presence of such sources could be significant in determining

the distribution and movement of certain species such as the Grey Fantail, Western Warbler, Red-tipped Pardalote and the Tawny-crowned, White-fronted and Pied Honeyeaters.

SYSTEMATIC LIST

Unless otherwise indicated, localities named are in Western Australia.

Accipitridae: Hawks and eagles in general appear to be independent of water, but I have one record of a Black Kite, *Milvus migrans*, drinking from a puddle at Larrimah, N.T. in Feb., 1944.

Charadiidae: As I have already mentioned, it is difficult to obtain convincing records of drinking in respect to birds that occupy habitats in which water abounds, this includes most waders. Banded Plover, *Zonifer tricolor*, are an exception. The birds tend to flock near dams at high summer but nevertheless I have only one positive record of these birds drinking. On May 24, 1971 a bird was seen by vehicle headlights drinking at a puddle on a track about 25 miles north of Hyden. The time was 1730 hrs.—deep dusk. In March, 1936, at Nangeenan, in a place frequented by Banded Plover, I found in a low-lying sandy area, a number of miniature soaks evidently excavated by birds.

Columbidae: Pigeons are generally recognised as birds very dependent upon water supply and this view is borne out by my experiences.

At Gorrie, N.T., in Jan., 1944, I noted Peaceful Doves, *Geopelia placida*, and Diamond Doves, *G. cuneata*, drinking at a small temporary pool and at Manbulloo, N.T., on April 27, 1944, two Bar-shouldered Doves, *G. humeralis*, were seen drinking at the Katherine River.

I have numerous records of Common Bronzewings, *Plaps chalcopetra*, watering either early in the day or in the evening. A note, "Drinking Habits of Common Bronzewing," *W. Aust. Nat.*, 2: 70, details some of these.

On December 26, 1948, at Caron, I observed Crested Pigeon, *Ocyphaps lophotes*, drinking at a silt trap at the Railway Dam.

The introduced Senegal Turtle-dove, *Streptopelia senegalensis*, is also a drinking species.

Psittacidae: I have no records on lorikeets drinking, but have notes on White-tailed Black Cockatoo, *Calyptorhynchus bandinii*, and Corella, probably *Kakatoe tenuirostris*, apparently drinking, the former at pools in a creek bed at Bilbarin in October, 1946, the latter at a dam near Caron on March 29, 1947.

Other species observed drinking are: Regent Parrot, *Polytelis anthopeplus*, at Bilbarin on January 2, 1947. Pale-headed Rosella, *Platycercus adscitus*, at Kowuran, Q., October 26, 1945. Western Rosella, *P. icterotis*, at Bilbarin on March 29, 1946. Port Lincoln Parrot, *Barnardius zonarius*, at Bilbarin in March and in December, 1946. Mulga Parrot, *Psephotes varius*, at Bilbarin and at Caron on several occasions. Bourke Parrot, *Neophema bourkii*, at Wanggannoo Station, (*W. Aust. Nat.*, 2: 67) and Elegant Parrot, *N. elegans*, at Bilbarin on May 9, 1946 and January 1, 1947.

These are mainly records of drinking at dams and troughs.

Meropidae: I have a record of Rainbow-birds, *Merops ornatus*, apparently drinking from the surface of a dam at Elliott, N.T. on December 15, 1943 and records of similar behaviour at the Roper River on January 17, 1944 and September 10, 1944. In each case, particularly the last, there is a possibility that insects or other food items were being taken.

Hirundiinidae: I have records similar to the foregoing made in respect of Tree Martins, *Petrochelidon nigricans*, at dams at Nangeenan on July 5, 1936, and Bilbarin on January 2, 1947.

Maluridae: At Collie on March 18, 1956, I observed a Western Warbler, *Gerygone fusca*, descending a pendulous branch and drinking from a river flowing through forest.

Rhipiduridae: On January 3, 1944 at Gorrie, N.T., I recorded a Willy Wagtail, *Rhipidura leucophrys*, drinking at a small temporary pool.

- Pachycephalidae:** Western Shrike-thrush, *Colluricincla rufiventris*. I have a note on this species made at Bilbarin in April, 1946, which infers drinking, but this requires confirmation.
- Dicaeidae:** At Nangeenan on March 14, 1936, I watched a Red-tipped Pardalote, *Pardalotus substriatus* and several Brown-headed Honeyeaters drinking at an open drain, the former resenting the presence of the honeyeaters and displaying aggression.
- Meliphagidae:** One might suppose that this group of nectar and insect-feeding birds would not be particularly dependent upon water, but the contrary appears to be the case. I have records for thirteen species, namely:
- White-naped Honeyeater, *Melithreptus lunatus*:—**
January 22, 1936. Ferntree Gully, Victoria. Bird noted drinking at a horse trough.
- Brown-headed Honeyeater, *Melithreptus brevirostris*:—**
March 14, 1936. Nangeenan. Several birds drinking at an open drain.
March 28, 1937. Nangeenan. A flock of about six birds visits our grounds each morning to drink.
May 6, 1946. Bilbarin. A party of twenty to thirty birds noted drinking at our bird bath—a common occurrence of late.
- Banded Honeyeater, *Myzomela pectoralis*:—**
December 19, 1943. Birdum, N.T. Flock observed drinking at a roadside puddle.
- Brown Honeyeater, *Lichmera indistincta*:—**
November 21, 1936. Nangeenan. Birds visit a water container at the house to bathe and to drink.
February 3, 1937. Brown Honeyeaters still visit the container at the house to drink.
March 10, 1946. Bilbarin. These birds may often be seen at the house where they obtain water at the bird bath.
- Singing Honeyeater, *Meliphaga virescens*:—**
May 7, 1935. Nangeenan. Birds seen drinking at a bowl with White-eared, Brown-headed and Spiny-checked Honeyeaters.
- White-eared Honeyeater, *M. leucotis*:—**
April 10, 1935. Nangeenan. Today I noted one bird drinking at an open drain.
March 21, 1936. Honeyeaters drinking at the house.
April 10, 1936. Totadgin. Bird drinking at a dam. It clung to a vertical post in the water turning head downward to take each beak-full of water and righting itself to swallow. Birds behave in a similar way at Nangeenan; they cling to a pendant branch of the pepper tree under which the water vessel is placed.
March 28, 1948. Caron. Two, drinking at a small pool. Five other bird species were seen drinking within half-an-hour.
December 26, 1948. One bird drinking at a silt trap at the Railway Dam.
- Yellow-tinted Honeyeater, *M. flavescens*:—**
January 3, 1944. Gorrie, N.T. Some drinking at a small temporary pool.
- Dusky Miner, *Manorhina flavigula*:—**
At Nangeenan, in 1932 and 1933 a flock of twenty to thirty birds frequently visited our bird bath to bathe and drink.
- Red Wattle-bird, *Anthochaera carunculata*:—**
February 4, 1934. Nangeenan. Three or four birds visit our bird bath to bathe and drink and to spend the hottest hours in the tree beneath which the bowl is set.
- Little Wattle-bird, *A. chrysoptera*:—**
October 11-13, 1969. Dryandra. Birds noted drinking at a dam.

- Spiny-cheeked Honeyeater, *Acanthogenys rufogularis*:—
February 22, 1948. Caron. Following light rain a few small holes in the main catchment channel for the Railway Dam contained a little water. The Spiny-cheeked Honeyeaters in the vicinity were visiting these holes to drink.
- Silver-crowned Friar-bird, *Philemon argenticeps*:—
At Fountain Head, N.T., in October, 1944, these birds were conspicuous at a leak in our camp water supply and near the camp ablution blocks where, almost undoubtedly, they drank.
- Little Friar-bird, *P. citreogularis*:—
January 3, 1944. Gorrie, N.T. Observed drinking at a small temporary pool.
April 7, 1944. Strangeway, N.T. Birds crossing and re-crossing a waterhole, sometimes touching the water.
- Estrildidae: Finches have often been reported as drinking, sometimes in large numbers. My own records refer to smaller flocks, usually under twenty and in no case, I should say, in the excess of fifty.
- Zebra Finch, *Taeniopygia castanotis*:—
December 26, 1948. Caron. Six birds seen drinking at a silt trap at the Railway Dam.
- Black-ringed Finch, *Steganopleura annulosa*:—
January 10, 1944. Elsey Station, N.T. One party drinking at the Roper River just after dawn.
November 11, 1944. Batchelor, N.T. A small party observed drinking at the camp ablution area.
- Crimson Finch, *Neoclinia phaeton*:—
July 17, 1944. Warlock Ponds, N.T. A flock of from six to ten birds observed drinking at one of the ponds.
- Masked Finch, *Poephila personata*
- Long-tailed Finch, *P. aenticanda*
Both species drank frequently of water available at camps at Larri-mah, Gorrie and Batchelor, N.T.
- Gouldian Finch, *P. gouldiae*:—
January 3, 1944. Gorrie, N.T. Small flock noted drinking at a temporary pool.
July 28, 1944. Warlock Ponds, N.T. Flock noted drinking at one of the lagoons.
- Grallinidae: Magpie-lark, *Grallina cyanolenta*:—
I have a note made at Harvey on December 28, 1970, of a Magpie-lark apparently drinking. Mrs. Sedgwick has observed Magpie-larks drinking at Harvey.
- Cracticidae: I have observed both Pied Currawong, *Strepera graculina*, and Grey Currawong, *S. versicolor*, drinking, the former on December 1, 1945, on the Lamington Plateau, Qld., and the latter on April 10, 1936 at Totadgin.
I believe that both Grey Butcher-birds, *Cracticus torquatus*, and Pied Butcher-birds, *C. nigrogularis*, drink, but have definite records for only the former. These were made at Nangenan in January, 1935.
I have had very frequent opportunities of observing Western Magpies, *Gymnorhina dorsalis*, drinking.

ACKNOWLEDGEMENTS

The foregoing is a record of personal observations: no attempt has been made to review the literature relating to the drinking habits of birds. However, I have been influenced by "Notes on the Drinking Habits of Birds in Semi Desertic Beechuanaland," by M. P. S. Irwin, Bull. Brit. Ornithol. Club 76, 1956 : 99-101, and by the chapter on the biology of desert birds (Chapter 7) in *Avian Biology*, vol. 1, edited by D. S. Farner and J. R. King, Academic Press, New York, 1971, both sources having been brought to my notice by Dr. D. L. Serventy who has also helped in other ways with the preparation of this article.

NOTES ON THE BIOLOGY OF *AMPHIBOLURUS CRISTATUS* AND *AMPHIBOLURUS SCUTULATUS*

By ERIC R. PIANKA, Department of Zoology, University of Texas at Austin, Austin, Texas 78712, U.S.A.

Amphibolurus cristatus and *Amphibolurus scutulatus* are large, long-legged, terrestrial agamid lizards, obviously rather closely related. They are conspicuous animals, but have not received much attention from naturalists. Although my information on them is somewhat scanty, it is presented here in the hope of encouraging other workers to make more penetrating observations on these interesting lizards.

Gray (1845) described *Grammatophora cristata*, which was later assigned to *Amphibolurus cristatus* by Boulenger (1885). Boulenger's plate of *A. cristatus* was reproduced by Waite (1929). There are a pair of prominent nuchal ridges on each side of the neck of *A. cristatus*, and the adults are quite colourful (Fig. 1).



Fig. 1.—Subadult male *Amphibolurus cristatus* photographed near Zanthus, W.A. The head and foreparts of the body are reddish-brown, fading to a creamy white colour posteriorly. The tail is prominent, banded with black and a creamy white. Breeding adults acquire a coloration involving a mixture of reds and yellows. The stance shown, with the forelegs extended and the foreparts raised, is characteristic of both species and presumably maximizes the lizard's field of view. These animals forage by sitting-and-waiting in the open spaces between plants and in the leaf litter under large shrubs and trees.

Stirling and Zietz (1893) described and figured *A. scutulatus*, from a series of specimens collected between Fraser Range and Queen Victoria Spring, W.A. These authors noted the sexual dimorphism, both in size and colour, of *A. scutulatus*.

Figure 2 illustrates the geographic distributions of the two species, which are sympatric in the eastern Goldfields. All localities I have are listed below, using the following abbreviations: AM (Australian Museum), SAM (South Australian Museum), WAM (Western Australian Museum), and ERP (my collection, now deposited with the Los Angeles County Museum of Natural History). Literature records are listed with the appropriate reference. Records requiring confirmation are not plotted but are listed in quotation marks.